What is claimed are:

1. A semiconductor light emitting device comprising a metallic support plate; a light-reflective reflector mounted on the support plate and formed with a hole upwardly diverging; a semiconductor light emitting element mounted on the support plate within the hole of the reflector, the light emitting element having a first electrode electrically connected to the support plate; a first wiring conductor electrically connected to the support plate; a second wiring conductor electrically connected to a second electrode of the light emitting element; and a heat-resistible plastic encapsulant for sealing at least an outer periphery of the reflector, an upper surface of the support plate, each inner end of the first and second wiring conductors.

2. The semiconductor light emitting device of claim 1, further comprising a lens formed of light-tansmittable or transparent resin for covering upper surfaces of the reflector and plastic encapsulant.

3. The semiconductor light emitting device of claim 1 or 2, further comprising a light-tansmittable or transparent cover for covering a hole of the reflector.

4. The semiconductor light emitting device of any one of claims 1 to 3, wherein the support plate is formed of a metallic material having the thermal conductivity equal to or more than 190 kcal/mh℃.

5. The semiconductor light emitting device of any one of claims 2 to 4, wherein the lens is formed of a resin which has the melting point lower than that of the plastic encapsulant.

6. A method for producing a semiconductor light emitting device comprising the steps of providing an assembly which includes a metallic support plate and a light-reflective reflector attached on the support plate; mounting a semiconductor light emitting element on the support plate; electrically connecting the light emitting element to a wiring conductor; setting the support plate and reflector in a cavity of a forming mold and clamping the support plate and reflector between upper and lower mold halves of the forming mold; and supplying a liquid resin into the cavity of the forming mold to form a plastic encapsulant.

7. The method of claim 6, further comprising forming a lens of light-transmittable or transparent resin on the plastic encapsulant for covering the hole of the reflector.

8. The method of claim 6 or 7, further comprising attaching a cover on an upper surface of the reflector; and sandwiching the reflector and support plate between the upper and lower mold halves through the cover.

9. The method of any one of claims 6 to 8, further comprising spreading a sheet over a bottom surface of the cavity, putting the support plate and reflector on the sheet, and sandwiching the sheet, support plate and reflector between the upper and lower mold halves of the forming mold; and

supplying liquid resin into the cavity of the forming mold.

10. The method of claim 9, wherein a total height of the cover, support plate and reflector, or a total height of the sheet, support plate and reflector is higher than a height of the cavity.

11. The method of any one of claims 6 to 10, further comprising electrically connecting the lead wire between the wiring conductor and semiconductor light emitting element, the lead wire passing through a notch formed in the reflector.

12. The method of any one of claims 6 to 10, further comprising electrically connecting the lead wire between the semiconductor light emitting element and a flat portion formed in the reflector; and further electrically connecting the reflector to the wiring conductor.

13. A semiconductor light emitting device comprising a support plate; a light-reflective reflector mounted on the support plate and formed with a hole upwardly diverging; and a semiconductor light emitting element mounted on the support plate within the hole of the reflector;

wherein the reflector has a ledge connected to a wiring conductor to electrically connect the light emitting element and wiring conductor through the ledge.

14. The semiconductor light emitting device of claim 13, wherein the ledge is electrically connected to the wiring conductor via brazing metal.

15. The semiconductor light emitting device of claim 13 or 14, wherein a lead wire electrically connects the semiconductor light emitting element and a flat area formed in the reflector.

16. A reflector for a semiconductor light emitting device, comprising:

a reflector block mounted on a support plate and formed with a hole for defining a reflective surface upwardly expanding, the reflector block surrounding a

semiconductor light emitting element for upwardly reflecting light from the semiconductor light emitting element;

a notch extending through the reflector block from the hole to an outer side surface between the semiconductor light emitting element and wiring conductor; and

a lead wire passing through the notch for electrically connecting the semiconductor light emitting element and wiring conductor.

17. The reflector of claim 16, further comprising a filler received in the notch through which the lead wire extends.

18. The reflector of claim 17, wherein the filler forms a part of the reflector.

19. A semiconductor light emitting device comprising a support plate; a light-reflective reflector having a reflector block which is mounted on the support plate or integrally formed with the support plate, the reflector being formed with a hole upwardly expanding; a semiconductor light emitting element mounted on the support plate within the hole of the reflector; a first wiring conductor electrically connected to one electrode of the light emitting element; a second wiring conductor electrically connected to the other electrode of the light emitting element through a lead wire; and a plastic encapsulant for sealing at least the hole of the reflector;

wherein the reflector has a notch which passes through the reflector block between the hole and an outer side wall and between the light emitting element and wiring conductor;

the lead wire passes through the notch to electrically connect the light emitting element and wiring conductor.

20. A method for producing a semiconductor light emitting device comprising the steps of forming an assembly which includes a metallic support plate and a light-reflective reflector having a reflector block attached on or integrally formed with the support plate, the reflector block being formed with a notch and a hole with the upwardly increasing radius;

mounting a semiconductor light emitting element on the support plate within the hole of the reflector;

electrically connecting the light emitting element to a wiring conductor by a lead wire passing through the notch of the reflector; and

injecting a liquid resin through the notch into the hole of the reflector to form a plastic encapsulant.